

## PATENT COOPERATION TREATY

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## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference ROC05048	<b>FOR FURTHER ACTION</b> See item 4 below	
International application No. PCT/AU2005/000470	International filing date ( <i>day/month/year</i> ) 31 March 2005 (31.03.2005)	Priority date ( <i>day/month/year</i> ) 05 April 2004 (05.04.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant SHINAGAWA REFRACTORIES AUSTRALASIA PTY LTD		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Box No. I    | Basis of the report   |
| <input type="checkbox"/> Box No. II              | Priority  |
| <input type="checkbox"/> Box No. III             | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input checked="" type="checkbox"/> Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI              | Certain documents cited   |
| <input type="checkbox"/> Box No. VII             | Certain defects in the international application  |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 11 October 2006 (11.10.2006)
	Authorized officer  Dorothee Mülhausen  e-mail: pt01@wipo.int

# PATENT COOPERATION TREATY

REC'D 14 JUN 2005

WIPO

PCT

From the:  
INTERNATIONAL SEARCHING AUTHORITY

To:

Halford & Co.  
No 1 Market Street  
SYDNEY NSW 2000

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 8 JUN 2005

Applicant's or agent's file reference  
C05048

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

PCT/AU2005/000470

International filing date (day/month/year)

31 March 2005

Priority date (day/month/year)

5 April 2004

International Patent Classification (IPC) or both national classification and IPC

Int. Cl. <sup>7</sup> F27D 1/16, B28C 7/16, B05B 7/14

Applicant

SHINAGAWA REFRACTORIES AUSTRALASIA PTY LTD et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the IPEA/AU

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2005/000470

Box No. I

Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2005/000470

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:

☐ paid additional fees

☐ paid additional fees under protest

☒ not paid additional fees

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is

☐ complied with

☒ not complied with for the following reasons:

1. Claims 1-34 are directed to a slurry spraying system which includes a gun means, a spray nozzle and a conduit connecting said gun means to said spray nozzle, said gun means including a pump means to move dry particulate towards said nozzle along said conduit with a mixing device between said gun means and said nozzle. It is considered that the "slurry spraying system which includes gun means, a spray nozzle and a conduit connecting said gun means to said spray nozzle, said gun means including a pump means to move dry particulate towards said nozzle along said conduit with a mixing device between said gun means and said nozzle" constitutes a first special technical feature

2. Claims 35-40 are directed to a mixing device having an inlet having a larger internal cross section than a hose connected to the mixing device, a diverging passage extending from said inlet and a transition passage located downstream of said diverging passage said transition passage having a substantially constant cross section and a liquid inlet being located in the diverging passage or said transition passage. It is considered that the "inlet having a larger internal cross section than a hose connected to the mixing device, a diverging passage extending from said inlet and a transition passage located downstream of said diverging passage said transition passage having a substantially constant cross section and a liquid inlet being located in the diverging passage or said transition passage" constitutes a second special technical feature.

Since the abovementioned groups of claims do not share either of the special technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

☐ all parts

☒ the parts relating to claims Nos. 1-34

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**PCT/AU2005/000470**

**Box No. V**      **Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 2-24, 26-34	YES
	Claims 1,25	NO
Inventive step (IS)	Claims 2-24, 26-34	YES
	Claims 1,25	NO
Industrial applicability (IA)	Claims 1-34	YES
	Claims	NO

**2. Citations and explanations:**

**US, 2124989**

**US, 3881688**

**US, 4272020**

**GB, 2025794**

**EP, 0405969**

All the above citations are within the field of concrete or refractory spraying and disclose the pneumatic conveying of dry particulate matter to a mixing device in which liquid, (clearly at a pressure greater than that of the dry particulate stream – or no appropriate mixing would occur.), is injected and the resulting slurry is dispensed toward a target. In these citations the liquid inlet is in the form of an annular ring surrounding the mixing device.

As a result claims 1 and 25 of the application are not novel and un inventive.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2005/000470

**Box No. VIII** Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 11,13,14-16, 20 and 32 are incorrectly appended to claim 1. Claim 11 for example is appended to claim 1 and it talks about "the diverging passage". Claim 1 is wholly silent as to this diverging passage.

Similar considerations apply to the "converging passage" and the "liquid inlet nozzle". None of these can be found in claim 1 yet the claims containing these items are claimed "in any one of the preceding claims".